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Meir Uri

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THE NATH LAW GROUP
112 South West Street
Alexandria, VA 22314

EXAMINER

KOAGEL, JONATHAN BRYAN

ART UNIT

PAPER NUMBER

3744

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,077	Applicant(s) URI ET AL.	
	Examiner JONATHAN KOAGEL	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-26 and 44-57 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-26, 44-57 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claims 1-26 and 44-57 are objected to because of the following informalities:

- The recitation “with the flexible container as it passes through the passage” (claim 1 line 15) should be changed to --with the flexible container as the container passes through the passage-- for clarity.
- The recitation “An apparatus according to claim 1” (claim 24 line 1) should be changed to --The apparatus according to claim 1-- for clarity and proper antecedent basis.
- The recitation “An apparatus according to claim 24” (claim 25 line 1) should be changed to --The apparatus according to claim 24-- for clarity and proper antecedent basis.
- The recitation “inserting a container containing a biological sample” (claim 26 line 4) should be changed to --inserting the container containing the biological sample-- for clarity and proper antecedent basis.
- The recitation “including at least one flexible container” (claim 55 line 1) should be changed to --the flexible container-- for clarity and proper antecedent basis.
- The recitation “the cooling walls” (claim 55 line 2) should be changed to --the inner surfaces—for clarity and proper antecedent basis--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 24, 25, 48-55 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Polk US Patent No. 3,074,247.

Regarding claim 1, Polk teaches in fig. 1, an apparatus capable of breezing a biological sample in a flexible container P the apparatus comprising a cooling axis (axis running vertically between plates 11), at least one set of two cooling plates 11 with inner surfaces positioned along the cooling axis, each at least one set of two cooling plates comprising a first plate dimension perpendicular to the cooling axis (width of plates) and a second plate dimension parallel to the cooling axis (length of plates), a passage defined between the inner surfaces of the plates, the passage comprising an inner width that conforms to an outer width of the container (see figure 3) and a motion unit 15 capable of moving the container through the passage along the cooling axis such that the sample is cooled by conduction from direct contact between the container and the inner surfaces of the plates, wherein the cooling plates 11 are capable of maintaining direct and tight sliding contact with the flexible container as the container passes through the passage.

Regarding claim 2, Polk teaches the invention as disclosed above and further teaches in fig. 1, the plates 11 are oriented vertically.

Regarding claim 3, Polk teaches the invention as disclosed above and further teaches in fig. 1, the plates 11 are oriented horizontally (when figure 1 is viewed from an orientation of having an upper plate and a lower plate).

Regarding claim 4, Polk teaches the invention as disclosed above and further teaches in fig. 1, wherein the inner surfaces of the plates 11 are parallel to side walls of the container P.

Regarding claim 7, Polk teaches the invention as disclosed above and further teaches in fig. 1, the cooling plates 11 comprise at least one channel (interior of plates) capable of allowing for a flow of a cryogenic fluid therethrough.

Regarding claim 24, Polk teaches the invention as disclosed above and further teaches in fig. 1, wherein the cooling axis is disposed vertically.

Regarding claim 25, Polk teaches the invention as disclosed above and further teaches in fig. 1, the apparatus capable of initiating freezing internal to the passage and capable of movement of the container P from a lower portion of the passage to a higher portion of the passage (see figure 4).

Regarding claim 48, Polk teaches the invention as disclosed above and further teaches in fig. 1, wherein the passage has a constant cross section throughout the length of the passage.

Regarding claim 49, Polk teaches the invention as disclosed above and further teaches in fig. 4, wherein the width of the passage is adjustable.

Regarding claim 50, Polk teaches the invention as disclosed above and further teaches in fig. 5, the cooling plates 11 are capable of adjusting a varying width of the flexible container P and maintaining direct contact.

Regarding claim 51, Polk teaches the invention as disclosed above and further teaches in figs. 4-5, the cooling plates 11 are capable of automatically adjusting to a varying width of the flexible container P and maintaining direct contact.

Regarding claim 52, Polk teaches the invention as disclosed above and further teaches in fig. 1, at least one cooling plate 11 is biased towards a direction of the passage. Furthermore, as shown in figure 6, the plates are biased toward a direction of the passage since the plates can move left to right in a direction of the passage.

Regarding claim 53, Polk teaches the invention as disclosed above and further teaches in fig. 1, wherein the inner surfaces of the cooling plates 11 are smooth inner surfaces.

Regarding claim 54, Polk teaches the invention as disclosed above and further teaches in fig. 5, the inner surfaces of the cooling plates 11 are parallel to side walls of the flexible container P.

Regarding claim 55, Polk teaches the invention as disclosed above and further teaches in fig. 5, including the flexible container P, the inner surfaces and the flexible container are capable of providing and maintaining direct and tight sliding contact therebetween along a length of the passage.

Regarding claim 57, Polk teaches the invention as disclosed above and further teaches in fig. 1, the flexible container P and inner surfaces of the cooling plates 11 are smooth. The recitation further allowing tight contact between the inner surfaces of the cooling plates and the flexible container when the container passes through the passage is considered to be a statement of intended use. It has been held that the recitation with respect to the matter in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 6, 8-23, 26, 44-45, 47 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polk as applied to claim 1 above, and further in view of Arav US Patent No. 5,873,254.

Regarding claim 5, Polk teaches the invention as disclosed above but fails to explicitly teach a retention device adapted to hold the container.

However, Arav teaches in fig. 1a, a retention device 40 capable of holding a container 38. This device will prevent the container from falling in the case that the motion unit fails to work properly.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teachings of Polk with the teachings of Arav to include a retention device adapted to hold the container in order to prevent damage to the container if the container falls due to the malfunction of the motion unit.

Regarding claim 6, Polk teaches the invention as disclosed above and further teaches the one set of cooling plates 11 separated by a gap (gap between plates). Polk fails to explicitly teach two or more sets of cooling plates arranged along the cooling axis adjacent to each other wherein the at least two sets are separated by a gap.

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Arav teaches in fig. 1a, an additional set of cooling plates 12, 14 separated by a gap. It would have been obvious to a person of ordinary skill in the art at the time of invention to include an additional set of cooling plates so that two or more sets of cooling plates would be arranged along the cooling axis adjacent to each other wherein the sets of cooling plates are separated by a gap in order to allow for a longer passageway which results in a longer cooling process for samples that need long term storage cooling. The gap allows the user to see into the passageway to prevent a sample from becoming too frozen.

Regarding claim 8, Polk teaches the invention as disclosed above but fails to explicitly teach the cryogenic fluid comprises liquid nitrogen.

Arav teaches a cryogenic fluid within cooling plates comprises liquid nitrogen (column 4 lines 55-62). The use of liquid nitrogen will allow the plates to become colder in a shorter amount of time.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teachings of Polk with the teachings of Arav to include a cryogenic fluid that comprises liquid nitrogen in order to decrease the time needed to lower the temperature of a sample. This is due to the liquid nitrogen lowering the temperature of the cooling plates in a shorter amount of time.

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Regarding claim 9, Polk teaches the invention as disclosed above but fails to explicitly teach a feedback control system adapted to control at least one freezing parameter.

Arav teaches a feed control system (not shown column 4 lines 22-25) capable of controlling at least one freezing parameter. The use of a feedback control system will prevent the sample from becoming too cold, preventing damage.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Polk with the teachings of Arav to include a feedback control system adapted to control at least one freezing parameter in order to prevent damage from occurring to the sample, in the case that the sample becomes too cold. The feedback control system can prevent this from occurring by shutting down the cooling system.

Regarding claim 10, Polk as modified above teaches the invention as disclosed and Arav further teaches in fig. 1a, a heating arrangement 56, 57, 58 associated with the cooling plates (column 4 lines 9-13).

Regarding claim 11, Polk as modified above teaches the invention as disclosed and Arav further teaches wherein the heating arrangement 56, 57, 58 comprises at least one electric resistance heater (column 4 lines 9-13).

Regarding claim 12, Polk as modified above teaches the invention as disclosed and Arav further teaches wherein the feedback control system comprises temperature sensors (column 4 lines 22-25).

Regarding claim 13, Polk as modified above teaches the invention as disclosed and Arav further teaches wherein the feedback control system comprises a processor. Arav discloses thermocouples which need to send information sensed to a controller or processor and therefore it is obvious that Arav has a processor.

Regarding claim 14, Polk as modified above teaches the invention as disclosed and Arav further teaches in fig. 1b, wherein the processor is capable of controlling at least one of flow of cryogenic fluid (column 4 lines 53-62). Arav discloses an electrically activated valve which has to be controlled by a controller or processor to control the flow of cryogenic fluid.

Regarding claim 15, Polk teaches the invention as disclosed above but fails to explicitly teach a monitoring means.

Arav teaches in fig. 1a, a monitoring means 60, 64 (column 4 lines 41-45). The use of a monitoring means will allow a user to watch the sample as it is freezing and prevent the sample from freezing incorrectly.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teachings of Polk with the teachings of Arav to include a

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monitoring means in order to prevent the sample from being damaged due to improper freezing through the passage between the set of cooling plates.

Regarding claim 16, Polk teaches the invention as disclosed above and Arav further teaches wherein the monitoring means 60, 64 comprises a video camera (column 4 lines 41-45).

Regarding claim 17, Polk as modified above teaches the invention as disclosed and Arav further teaches in fig. 1, wherein the monitoring means comprises a device 64 capable of taking a temperature measurement of the biological sample during freezing (column 4 lines 49-51).

Regarding claim 18, Polk as modified above teaches the invention as disclosed and Arav further teaches wherein the device 64 is an infrared thermograph (column 4 lines 49-51).

Regarding claim 19, Polk teaches the invention as disclosed above but fails to explicitly teach a first chamber adapted to receive the container a second chamber adapted to perform the freezing and a third chamber adapted for removal of the container after freezing, the chambers constituting at least a portion of the passage.

Arav teaches in fig. 1, a first chamber (passage in 12) capable of receiving the container, a second chamber (passage in 14) capable of performing freezing and a third

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chamber (passage in 16) capable of removal of the container 38 after freezing, the chambers constituting at least a portion of the passage 36.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Polk with the teachings of Arav to include a first chamber adapted to receive the container a second chamber adapted to perform the freezing and a third chamber adapted for removal of the container after freezing, the chambers constituting at least a portion of the passage in order to fully automate the apparatus for freezing the sample so that a user does not have to manually insert and remove the sample from the passageway every time a sample needs to be frozen, rather multiple samples can be frozen all at the same time.

Regarding claim 20, Polk as modified above teaches the invention as disclosed and Arav further teaches in fig. 1a, wherein the apparatus is capable of initiating freezing within the first chamber (passage in 12).

Regarding claim 21, Polk teaches the invention as disclosed above but fails to explicitly teach the apparatus adapted to initiate freezing external to the passage.

However, Arav teaches in fig. 1a, an apparatus is capable of initiating freezing external to a passage 36. Refrigeration device 50 is capable of initiating the freezing before (left of) passage 36 through convection within the passage.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Polk with the teachings of Arav to include an apparatus adapted to

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initiate freezing external to the passage in order to lower the sample to a freezing temperature in a shorter amount of time, thereby also lowering the operational costs of the apparatus as it does not have to operate as long to freeze the sample.

Regarding claim 22, Polk as modified above teaches the invention as disclosed and Arav further teaches in fig. 1a, wherein the apparatus is capable of initiating freezing in an area of the container 38 (before entering passage 36, via refrigeration device 50), and to introduce the container 38 into the passage 36 after the initiation, wherein during the initiation, the container 38 is disposed such that the area is near the top thereof and during introduction into the passage the area is near the front in the direction of movement. Heat will be transferred from the refrigeration device 50 to the top of the container in the initiation phase from convection. When the container enters into the passage 36, the front will be directly contacted with a cold temperature from the refrigeration device 50.

Regarding claim 23, Polk as modified above teaches the invention as disclosed and Arav further teaches in fig. 1, wherein the third chamber (passage of 16) is capable of cooling the container 38 to a temperature which is below that achieved as a result of freezing. The channel 54 near the third chamber (passage of 16) which contains liquid

Regarding claim 26, Polk teaches the invention as disclosed above and Polk further teaches a method of cooling a package comprising providing the apparatus of

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claim 1, inserting a package into the apparatus and moving the package through the passage along the cooling axis. Polk fails to explicitly teach cooling the biological sample comprising inserting the container containing a biological sample into the apparatus, providing a predetermined temperature gradient along the cooling axis.

Arav teaches in fig. 1a, a method of cooling a biological sample the method comprising inserting a container 38 containing the biological sample into the apparatus and providing a predetermined temperature gradient along the cooling axis.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Polk with the teachings of Arav to include a method of cooling a biological sample comprising inserting the container containing the sample into the apparatus and providing a predetermined temperature gradient along the cooling axis in order to effectively cool and thaw the sample at controlled rates (Arav column 3 lines 51-53).

Regarding claim 44, Polk teaches the invention as disclosed above and Polk further teaches in fig. 5, when the container P is in the apparatus, the container remains below the height of the passage. Polk fails to explicitly teach when the container is in the apparatus the biological sample is disposed in the container such that the sample remains below the height of the passage.

However, Arav teaches in fig. 1a, when a container 38 is in the apparatus, a biological sample (inside of 38) is disposed in the container 38 such that the biological sample remains below the height of the passage.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Polk with the teachings of Arav to include when the container is in the apparatus the biological sample is disposed in the container such that the sample remains below the height of the passage in order to prevent other warmer biological samples within the passage from transferring heat to other cooler samples. This would prevent samples that have already passes through the passage from being completely frozen.

Regarding claim 45, Polk teaches the invention as disclosed above but fails to explicitly teach the biological sample comprises red blood cells.

Arav teaches in fig. 1a, an apparatus used to freeze a biological sample within a container 38. The use of the apparatus to cool a biological sample using a set of cooling plates will allow the sample to be cooled in an efficient amount of time.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Polk with the teachings of Arav to include a biological sample within the apparatus in order to have the ability to efficiently lower the temperature of a biological sample, thereby having the capability of preserving the sample so it will not become damaged due to warm temperature. Polk as modified by Arav further fails to explicitly teach the sample comprising red blood cells. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667, (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a

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structure being claimed does not impart patentability to the claims". *In re Young*, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

Regarding claim 47, Polk teaches the invention as disclosed above but fails to explicitly teach the container has a length twenty times larger than the width of the container.

Arav teaches in fig. 1a, a container 38 that appears to have a length that is much larger than the width of the container. The size of the container having a length that is twenty times larger than the width of the container is recognized as a result effective variable, i.e. a variable which achieves a recognized result. In this case, the length being twenty times larger than the width of the container would allow the container to hold more biological material to be cooled. The larger container size also allows larger samples to be frozen and preserved. This size gives a user more flexibility, as more material can be frozen at one time as well as allowing the cooling apparatus to be capable of freezing and preserving many different sized samples.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Polk with the teachings of Arav to include a container that has a length twenty times larger than the width of the container in order to allow larger samples to be frozen and preserved. This increases the flexibility of the apparatus to freeze and preserve different sized biological samples.

Regarding claim 56, Polk teaches the invention as disclosed above and further teaches in fig. 1, the flexible container P is capable of allowing an even distribution of the contents against both inner surfaces of the cooling plates 11. Polk fails to explicitly teach a biological sample contained within the container.

However, Arav teaches in fig. 1a, a container 38 containing a biological sample capable of allowing an even distribution of the sample throughout the container.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teachings of Polk with the teachings of Arav to include a flexible container capable of allowing an even distribution of a biological sample, that when combined with Polk would allow the flexible container to be configured to allow an even distribution of the sample against both inner surfaces of the cooling plates in order to obtain a more uniform cooling of the biological sample. This decreases the time needed to lower the temperature of the sample thereby lowering operational costs of the system as it does not have to operate as long to meet a cooling demand of the sample.

Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polk as applied to claim 1 above, and further in view of Eck et al. DE Publication No. 10056181 C1.

Regarding claim 46, Polk teaches the invention as disclosed but fails to explicitly teach the container is a blood bag.

Eck teaches in fig. 1, the cryogenic storage of blood samples that uses a blood bag 20 to carry the blood (abstract translation lines 1-4). The use of a blood bag allows

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for a larger storage volume of the biological material to be cooled, allowing more material to be cooled at one time.

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Polk with the teachings of Eck to include a blood bag for the container in order to increase the amount of biological material that can be cooled and stored at one time. The increased size of the bag allows more material to fit within it. Further, the efficiency of the system is increased as the time needed to freeze a given amount of biological sample is decreased due to the increased capacity when using the blood bag.

Response to Arguments

Applicant's arguments filed 6/29/11 have been fully considered but they are not persuasive.

In response to the applicant's argument regarding the Polk reference and the rows of packages P not being moved in sliding contact with the inner walls of plates 11, the claim recites that the cooling plates are configured to maintain direct and tight sliding contact with the flexible container as the container passes through the passage. The cooling plates (as well as the motion unit) are capable of maintaining direct and tight sliding contact with the flexible container as the container passage through the passage, as functional language is recited here, thereby meeting the limitation of the claim. The applicant should more positively recite the function of the cooling plates. The applicant further argues that Arav and Polk do not disclose any sliding contact

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between the cooling plates and the flexible container, let alone wherein the cooling plates are configured to maintain direct and tight sliding contact with the flexible container as it passes through the passage. However, as noted above, this recitation within the claim is considered to be functional language, and the structure of Polk is capable of performing the function, thereby meeting the limitation of the claim. Lastly the applicant argues that Eck, like Arav and Polk do not disclose any sliding contact between cooling plates. However, Eck was being used to show how it would have been obvious to a person of ordinary skill in the art to utilize a blood bag within the apparatus of Polk.

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN KOAGEL whose telephone number is (571)270-7396. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571)272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. K./
Examiner, Art Unit 3744
7 September 2011

/CHERYL J. TYLER/
Supervisory Patent Examiner, Art
Unit 3744